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J.M. Roever

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COVER: Beaver family feeds on bank of their pond at sunset. Our artist: J. M. Roever, Cocoa Beach, Florida.

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National Hunting and Fishing Day

HUNTERS and fishermen will get national recognition for their contributions to conservation if Congress passes a Senate joint resolution recently introduced by Sen. Thomas James McIntyre (N.H.).

S.J. Resolution 117 asks that President Nixon declare the fourth Saturday of each September "National Hunting and Fishing Day."

Sen. McIntyre said, "Since there is no present national recognition of the many worthwhile contributions of the American hunter and angler, I am asking Congress and the President to declare this special day. Hunters and anglers traditionally have led in the effort to preserve our natural resources."

The resolution has been referred to the Senate Committee on the Judiciary.

In calling for a National Hunting and Fishing Day, Sen. McIntyre said, "In the congestion and the complexities, the tensions and frustrations of today's life, the need for outdoor recreation—the opportunity to 'get away from it all'—has become of crucial importance. There are few pursuits providing a better chance for healthy exercise, peaceful solitude, and appreciation of the great outdoors than hunting and fishing."

Warren Page, executive vice president of the National Shooting Sports Foundation, predicted that sportsmen all over the nation would support passage of the resolution. Mr. Page said, "Since the turn of the century sportsmen have been fighting a lonely battle for the wise use of our natural resources. It is only fair that they be recognized for their leadership in conservation as well as for fostering healthful outdoor recreation."

The text of the resolution, following the introductory reasons, states:

"Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, that the President of the United States declare the fourth Saturday of each September as "National Hunting and Fishing Day" to provide that deserved recognition, to recognize the esthetic, health, and recreational virtues of hunting and fishing, to dramatize the continued need for gun and boat safety, and to rededicate ourselves to the conservation and respectful use of our wildlife and natural resources."

Now this proposed action, to designate a National Hunting and Fishing Day, does not raise one of the top priority issues with which the nation has to deal, and *Virginia Wildlife* would not care to be accused of exaggerating its importance. It will not clean up a single stream, protect a watershed, improve any wildlife habitat, or remove any endangered species from the list. But the positive contribution which properly regulated hunting and fishing make to natural resource conservation does deserve better recognition, especially by many of those who do not care to participate in the sports themselves. It will be interesting to note the sources from which opposition arises, if any does, to this simple action by Congress and the President.

LETTERS

Hunting in Germany

I read with great interest the article by Robert J. Clements, "WAIDMANNSHEIL: Hunting in Germany" (January 1971 *Virginia Wildlife*).

Having hunted in Germany for almost three years and being a licensed American Hunting Instructor, I can vouch for the accuracy of his outstanding article. He must have also hunted in Germany or did a tremendous amount of research.

There is something I would like to add to his story. The system really works. West Germany today is about the size of the state of Colorado but has a population of 58 million people. Yet in the 1965-66 season the following game was harvested in West Germany: red deer, 28,940; fallow deer, 5,890; roe deer, 608,400; wild boar, 24,620; ehamois, 1,635 and mouflon (wild sheep), 940. Here are some small game figures: field hares, 212,550; rabbits, 886,500; partridge, 308,900; pheasants, 785,689; woodcock, 18,690; wild ducks, 212,340; geese, 2,800; wild pigeon, 266,850.

Just to show that this was not a fluke year, the following figures are furnished for the 1966-67 season: 609,000 roe deer; 28,000 red deer stags; 25,000 wild boar; 395,000 partridge; 800,000 pheasants; 890,000 rabbits; 1.3 million hares and 5,900 fallow deer. Because of their whole system I can guarantee that these figures are much more accurate than any we can obtain in this country.

As Mr. Clements says, "As the population increases and the environment suitable for wildlife shrinks, our system and style of hunting may evolve in this general direction of the Old World."

It not only may, it MUST.

Ronald J. Sybers
USS Patterson (DE-1061)

Spot Fishing

BEING an old hand at spot fishing on the lower Potomac out of Lewisetta, I thoroughly enjoyed the article in the June issue by Arthur L. Cone, Jr.

May I take your time to tell you how we fish for spot? The suggested spot rig may be good, but I have never had much success with that type of rig. I make my own by using three snap type swivels for the hooks, each separated by the distance of the gut hook rig. Of course the same would be done for the sinker. By using this type of rig, if you catch a "blow toad" and he bites the hook off, all you have to do is unsnap the ruined leader and replace it with a new one with hook attached.

The best time to catch spot is either on the outgoing or incoming tides. The spot either must be kept alive or well iced while fishing. When you get home, these fish must be cleaned as soon as possible as the blood congeals and centers around the backbone, leaving a taste of iodine. The fish should be washed well and the backbone washed down with the aid of a food brush.

R. W. McClintock
Richmond

The Littlest Bass

White perch, smallest member of the true bass family.

By BOB GOOCH
Troy

FEW forms of outdoor pursuits are more plagued by misleading terms than those the angler has to contend with.

Take the bluegill, for example. Here in the Old Dominion we refer to this fine panfish as a bream, though actually the true bream is a saltwater fish. The bluegill is a member of the sunfish family as are the large- and smallmouth bass, the crappie and about a dozen other sunfishes. We call the walleye of the New River a pike, though it is actually the jumbo member of the perch family as are the sauger and yellow perch.

The word "perch" is an all encompassing common name used loosely to include a multitude of panfish.

One of these is the white perch, the smallest member of the true bass family.

You could get into all kinds of arguments just suggesting that the large- and smallmouth bass are not really bass, but instead oversize sunfish. Common usage and the wonderful world of angling have pretty well established the largemouth and smallmouth as the accepted bass of America.

But the true basses are another breed of fish in America—and in Virginia. They include the popular striped bass, the white bass, the white perch and the yellow bass of the Midwest.

Note that only the white perch is not honored by having the word "bass" included in its double name. But the little scrapper IS a bass and not a perch in any sense of the word. Biologists tie the family together with the common designation of *Morone*. The striped bass is *Morone saxatilis*, the yellow bass, *Morone interruptus* or *mississippiensis*, the white bass, *Morone chrysops*, and the little white perch is *Morone americana*.

I like *americana* for the plucky little bass. He is as American as Jamestown Island, and a favorite of thousands of anglers from Maine to the Carolinas. The white perch is the smallest of the true basses.

Its fine food qualities and abundance throughout its range are the attractions the white perch holds for the angler.

The absence of pronounced diagonal lines along its flanks and its stubby build distinguish it from the other basses. It does have a long, lateral line the length of its flanks, and a series of faint diagonal lines may be discernible on some specimens. Like the white bass and striped bass, the white perch is of a handsome silvery white color, and—as is true of the other basses—it has a deeply notched dorsal fin. The 9 or 10 spines ahead of the notch are stiff and sharp.

Common names for the white perch include silver perch and sea perch. Anglers down on Back Bay call them bluenose perch, and a Piankatank River angler whom I recently asked about the fishing replied that the stiff-back perch were hitting. I pressed the point and found he was referring to white perch.

White perch do not run large. Most are panfish size—6 or 7 inches long and weighing less than a pound. A 1-pounder will qualify its captor for a Commission of Game and Inland Fisheries Trophy Fish Citation. The state record, a 2-pounder, was taken from Back Bay in 1969. The fish are long livers, though, and some in our brackish waters from 12 to 15 years. By that time they have reached respectable sizes, and a few stretch to 15 inches and 2 to 3 pounds.

The little bass are found along the Atlantic Coast from Nova Scotia to the Carolinas, and in recent years have invaded Lake Erie. Experimental introductions have been made even farther west.

White perch are by nature anadromous, living in both brackish and fresh water, and often going from one to the other during their spawning runs. They frequently become

landlocked and may thrive in fresh water.

The smallest of the true basses live in shallow water and wander from place to place in small schools. Many migrate up small streams during the spawning season, but they can also spawn in shoal areas of brackish and salt water. The white perch is a very prolific fish and suffers from overpopulation.

Like all the basses, the white perch feeds on crustaceans, insects and other small fish.

Old Dominion anglers are lucky. The white perch fishing possibilities available in the brackish waters of eastern Virginia are almost unlimited. Back Bay has an abundance of perch and it provides good fishing throughout the season. The Potomac River is usually overpopulated with the little bass. Some of the finest perch fishing it has been my privilege to enjoy has come on family camping trips to Westmoreland State Park in the spring. On several occasions I have been able to wade a few feet offshore from a rocky point and take limits on light spinning tackle. Both the Chickahominy River and big Chickahominy Lake can be productive once the angler locates the fish. This is not always easy, however. The James River within the city limits of Richmond is good perch water. Shad fishermen take the little bass on darts and spoons intended for hickory and white shad. The same holds true for shad fishermen on the Rappahannock at Fredericksburg. The shad may not always hit, but it is a rare trip when the angler does not land a white perch or two. They are usually unappreciated, however.

Other good waters include the Blackwater and Nottoway Rivers, the Mattaponi and Pamunkey Rivers, the Piankatank River, and Dragon Run.

I will hazard a guess that most of the white perch caught in the Old Dominion fall to that age old bait, the worm. Blood worms are popular, but just about any kind—including ordinary garden worms—will catch perch. Shrimp are popular among many perch fishermen. Light tackle and very small hooks make perch fishing a sporting proposition. Many anglers use double rigs and when the perch are hitting well, double catches are not unusual. Spinning tackle is just about ideal for worm fishing.

Loading up for a white perch fishing trip on the Chickahominy River.

A catch of Virginia white perch.

Retain the same tackle and switch to small minnows and the fishing can be just as productive—but more expensive as the minnows go fast. It has been my experience that the angler fishing with minnows catches the larger perch.

Of course, there is nothing wrong with tiny spoons, spinner-fly combinations, shad darts and a variety of other artificial lures. Again, spinning tackle will handle the assignment well, and I like ultralight best. The light lures are easier to cast on the willowy tackle, and the little bass put up a more spectacular battle.

The fly fishing enthusiast can have a ball with the little fish. The same tiny lure used with ultralight spinning tackle will take perch for the fly fisherman. And the fly rod man can add wet flies and small streamers, though he will have to get them down where the fish are feeding. On northern lakes, fly fishermen watch for the late afternoon rises. When the perch start dimpling the surface, the fly rod man can have a pienic fishing with small dry flies.

If the angler does not know exactly where the perch are feeding, then he should start his fishing by trolling—working small spoons and lures back and forth over likely water until he gets a strike. He can then anchor and cast, or fish with natural baits. The schooling fish will likely fill his stringer in a hurry.

It is possible the white perch may be more popular in the pan than on the terminal part of light tackle. The firm, succulent meat of the white perch is delightful on the platter, and, in the spring, perch roe dipped in flour and eggs and quickly browned is a rare treat.

Thigmotropic Snake Sticks

(Produced by Nature, the Cane is a thing of grace and beauty. "Thy Rod and Thy Staff They Comfort Me.")

By FRANCIS D. P. BRUNER
Waynesboro

THE Couple "X" was definitely woodsy, with an urbanite aura about them. Both were dressed for roaming the backwoods in spring and summer. Except for the woman's delectable head-to-foot profile, the two were twins in style: unfinished low army brogues to red hunting caps. He carried a short machete; she, a canteen. Still something was missing.

Leaving the dirt road off which their car was parked, the couple headed across fields toward the Blackwater swamp. The hedgerow they followed was of maple saplings and wild cherry, overgrown with honeysuckle. Both "X's" were looking for something.

Suddenly Mrs. "X" exclaimed, "I found it." And, because of possible snakes, pushed cautiously into the underbrush. Mr. "X" followed with the machete, to cut the cherry sapling free of entangling vines.

The sapling varied in diameter from 1½" to ½" in its 6-foot height. Within the center 3 feet of this length the honeysuckle, a twining vine, had squeezed a continuous helical groove. And the growing sapling had formed slightly raised and rounded edges, which made the groove more pronounced. The pitch of the groove spiral was an almost uniform 3½ inches.

"What a beautiful cane," said Mrs. "X." "Don't peel the bark off. I'll do that later."

Mr. "X" whipped the wild cherry sapling back and forth. "As supple as it is now, it'll make a good snake stick," he said. And added, "Down near the water I'll find a voluted sweetgum sapling for myself."

The couple were woodsmen in a practical sort of way, and both were interested in plant genetics and pathology. This interest crystallized in a collection of canes cut from many varieties of saplings. In most cases the coil of the twining vines, especially the common Japanese honeysuckle, Lonicera (with the fragrant white and yellow flowers), had left a pronounced groove in the surface of the saplings; much like the convoluted threads of a screw.

While saplings act as arbors for twining vines, occasionally this results in the death of one or the other. A twiner may choke the expanding growth of a sapling, thus killing it. Or, reversely, the sapling's expanding trunk may break the twining vine and kill it: or stretch the vine and thereby also kill it.

Honeysuckle is the most rapacious of the twining vines. Wherever it grows it has a tendency to take over. Its physiology is significant: "The twining is not controlled by environment (light, temperature, etc.) but is controlled genetically from within the plant. The twining is created by unequal growth of the two sides of the stem. Actually we could just say that God makes them that way, and we know not why."

With the honeysuckle vine, spiraling is to the left, or clockwise. Conversely, the beautiful morning glory (Ipomoea) twines to the right, or counterclockwise. Its stem apparently is not tough enough to mold a sapling into a grooved cane. Neither is its environment compatible with random wild growing saplings of various species.

Sooner than expected the Couple "X" reached a spring branch where it flowed into the Blackwater. Its water was clear and sparkling. A little distance back from the swamp the banks of the stream were firm, with fern growing from

a low natural rock terrace. Here and there, a bit higher toward the open field, grew small dogwood, holly and a smattering of new pine. Nearer the swamp edge grew swamp magnolia and black gum saplings. Sunlight filtered through open branches of tall trees. There was scant underbrush. With a moderation of sunlight and shade, dry and cool air, honeysuckle in abundance whorled upward around the trunks of saplings.

The swamp, a hundred or so feet wide at this point, had a firm, part sandy bottom. Fall leaves formed a soft underwater mulch covering. Water in the main channel flowed sluggishly. A number of cypress trees were scattered about with knees protruding above water. Brushwood had washed against some of the projecting roots forming a suitably dry nest for water moccasin, a poisonous snake.

As the Couple "X" planned to examine a small Indian village site southwesterly across the Blackwater swamp, they were also dressed for wading. The low army brogues would instantly fill with water, cooling their hot feet. On reaching the farther bank, water would be poured from the shoes, which because of the slightly glazed interior would, within a short walk, become dry. Socks having been removed before wading would be put on again, to avoid chafing. Soft canvas slacks would also dry quickly and, though somewhat stiff, would give good protection against briars and underbrush.

On entering the water, in spots shin deep, Mr. "X" was cautious. Prodding ahead with his sweet gum cane he found a path for his wife. Seeing her punch into grounded brushwood with her cherry cane he called out, "Honey! If you're looking for a cottonmouth you found one. Now look out."

With no splash at all a snake slithered into the water. Mrs. "X" struck down with her cane, now a snake stick. Only a very wet splash resulted. She missed the snake, but turned it in the direction of her husband, fifteen feet away.

A swimming snake, if large, is a very fascinating sight. Especially if swimming toward you. Seldom more than a heart-shaped head appears followed by an attached rope-like shadow wriggling just below the surface of the water. As the snake's head silently approaches, ripples flow backward along both sides. The graphic plume on the surface of the water fashions a narrow striking wedge. The effect is sinister.

Mr. "X" waited motionless as he watched the approaching snake. Poised to strike, his cane was raised clear of the water. Suddenly the moccasin saw the man and turned to avoid collision, thus presenting a widening target. This was fatal. The sweet gum struck the snake back of the head, breaking its neck. When the threshing subsided Mr. "X" slipped his cane under the reptile's body and threw it clear of the water. His wife applauded. Thus the graceful cane was, with a single stroke, transformed into a thigmotropic snake stick.

But other interesting features evolve. The convoluted snake stick is always a cane of grace and beauty. Cut from small woody perennials its attractions are unlimited. The many species of saplings have just as many differences in wood grain, coloring, density, smoothness, pliability, strength, size and aging, especially tulip poplar, oak, osage orange and the ubiquitous sycamore.

The natural phenomenon of twining vines versus any sort of sapling in which convoluted grooves result is termed thigmotropism. A big name but it's a big field.

Such climbing vines depend on saplings for support. They cannot ascend the trunks of large trees because the turn is too far around.

Most twiners will always wind themselves around saplings in the same definite direction. It is hereditary; not a haphazard way of growing. But some vines may reverse direction in twining between north and south hemispheres, switching from clockwise to counterclockwise on opposite sides of the equator. The reasons for this trait have never been factually explained; only guessed at.

The same species of vine will have different characteristic effects on different species of sapling. Yet the graceful charm remains, while they all fit into the same use pattern.

Certain usages are quite popular. An odd number of canes placed in an old crock adorns any corner of the recreation room. Guests of all sorts are attracted to the display. It serves as a conversational item.

Assuming there are no swords to hang crossed, below a picture, convoluted canes of contrasting wood serve beautifully.

These ornamental sticks make captivating displays at arts and crafts exhibits. And can be sold.

Other examples of practical use for the voluted canes are varied. Roaming the Blue Ridge brings them out: Protection against wild dogs when a menacing flourish or a blow on the head frightens them off is consoling.

If the terrain is steep, a cane stuck in the ground on the slope ahead is a great help in pulling upward. And once the footing is attained, for bracing the foot to prevent slipping backward, nothing is better. On reaching the crest of a bluff, where underbrush occurs, opening a path through is easily accomplished by pushing the bramble and twigs aside with a cane.

Near Rockfish Gap an M.D. uses his wife's ornamental canes (the heavy ones) as a unique instrument in controlling a friendly bull by prodding it this way and that. And the doctor recommends the use of such a cane for a patient that must hop around on one foot.

But for any use of a convoluted walking stick certain preparations, with a variety of tools, are necessary. The sapling must be cut so as to make a comfortable handhold, and a protected tip. On the tip copper tubing is often pressed, and set in place over plastic wood. Above the tip rough places and bark are filed away. The groove is cleaned out with a knife and a round rasp, and made uniform. To clean the cane, and to waterproof and protect the surface from abrasion, a natural color liquid lemon wax is sprayed on, and rubbed down. This treatment brings out the natural texture of the wood.

The doctor near Rockfish Gap, while unaware of the fact, is in the same category as the Couple "X." Instead of Blackwater Swamp he roams the spurs and foothills of Afton Mountain.

Along the lower stretches of mountain streams grows the honeysuckle in sufficient quantity to duplicate nature's phenomenon, the thigmotropic walking stick. Excepting for certain swamp saplings that do not grow in the mountains, there is not much variation in the wood of the convoluted canes. However, many orchards grew on Afton Mountain so, ever so often, a beautiful apple wood sapling turns up, so embraced by a twining vine that such a voluted cane is seldom found elsewhere.

Back through history, and the ages beyond, walking sticks have given support and protection to human beings. Many such staffs were carved by hand, besides by nature. The twenty-third Psalm clarifies the foregoing concept with "Thy rod and Thy staff they comfort me."

Nothing's Simple About a Bird Dog

By LEONARD F. RUGGIERO
Graduate Fellow, Wildlife
Virginia Polytechnic Institute & State University, Blacksburg

A BIRD dog means different things to different people, from dog lovers to bench show people to sportsmen. It's with sportsmen that the bird dog is most likely to get the chance to do what he was bred to do—hunt birds. Most hunters at some point in their experience afield realize the worth of a good dog, whether it be hound, pointer, retriever or any other of the sporting dogs. Perhaps only a few of these same sportsmen ever come to realize what is required to make a first class hunting dog. Since we're going to be talking about bird dogs, specifically the pointing breeds, let's see just what goes into the making of a good substantial pointing dog.

We'll use the term "pointer" to indicate the breeds which include the Weimaraner, Visula, Brittany Spaniel, the setters, Drahthair or German wirehair pointer, German shorthaired pointer, and, of course, the English pointer. Some would-be bird hunters believe all they have to do is lay out the sizable amount of money necessary to buy a well bred puppy and, presto, they have themselves a "bird dog." This couldn't be further from the truth. Others figure they need to buy two things—first the dog, and then the book on how to train it. This group is closer to being on the right track, but, unfortunately, they too are wishful thinkers. The main reason is that bird dogs, or dogs in general for that matter, can't read! It's the owner that has to do the reading, and if his interpretation of the written word or the techniques he uses in applying what's said aren't "just so," there's a good chance he'll be worse off than when he started. Unless the trainer has a great deal of insight and natural good sense relative to animals and dogs in particular, the book won't be the answer. There are some fine books in print on training pointing dogs, and the novice should read up on the subject and follow the advice set forth in one of these better instructive books, even though this isn't going to answer the many questions that will come up in the process of starting the puppy and working toward a finished bird dog.

Most professional trainers will tell you that the only good bird dog is a natural one. This means as soon as that puppy opens his eyes he should be living for one thing—birds. When he sees his first bird the first thing mother nature is going to tell him to do is "point"—at least for a few long seconds. The idea of a natural bird dog is true. These dogs do make field trial champions and the sportsmen's dream crackerjack bird dogs. However, don't let that word natural get you back to thinking there's any such thing as an instant bird dog. There's no such animal!

The one single point that must be absolutely clear is that along that road called training a bird dog, there are an awful lot of wrong turns. As already indicated, a good puppy in any of the breeds mentioned is going to cost a considerable amount of money. In the case of a good pup in one of the more popular breeds, change that to a small pile of gold. Because of this, and the fact that a few of those wrong turns are dead ends, the would-be do-it-yourself trainer should think real hard about the task at hand.

The professional trainer is a good insurance policy. When you think of the amount of time you'll have a dog and the pleasure a good one can bring, the additional money is well worth it. Often, two or three months at the right time is all that's necessary. In order for this rather short period of time to be adequate, the owner should make every effort to learn as much as, if not more than, his dog. Watch your dog being handled, ask questions, and take the advice of the pro with regard to what your dog will need when you take him home.

Let's say all goes well in the early stages of your dog's schooling, just when do you have a "bird dog"? Perhaps the best single word to bear in mind to answer this question is "experience." You may have started hunting at twelve years old and at fifteen you might have been a crack shot, but at 25, after 13 years of "experience," you are certainly a better woodsman and hunter. It's no different with a bird dog. In fact two of the nation's greatest, Riggin's White Knight and Paladin's Royal Flush, are both into the two

A stylish high-headed point by one of the author's two German shorthaired pointers, "Happy Ridge Tom."

The kind of intensity that separates the merely good bird dogs from the champions.

figure age bracket. You could say that a bird dog is like good wine, better with age, and the all important experience that comes with it.

We've established that training a bird dog is tricky business and experience is a big factor in producing an outstanding dog. Just what are some of the things this feather-seeking wonder is supposed to do? Since the thing of greatest concern is, of course, Can the dog find birds, what does he have to do to find those quail, grouse, or whatever? Before a dog can find something he must know what it is he's looking for—even a bird dog must be introduced to birds. Once a dog stumbles into those first birds he's going to have to like it, and begin to hunt in order that he can repeat what should be a great pleasure, finding more birds. If he doesn't like finding birds, he'll never graduate to the title of bird dog. If he's crazy about birds, "birdy" as it is called, he's going in the right direction. Somewhere between this point and a finished dog he must learn not only to hunt but to hunt for you and not for himself. In other words, he must "handle." Most trainers use a combination of voice, whistle, and hand signals to handle a dog. What it amounts to is getting the dog to hunt where you want him to hunt and to respond to your commands of break away, turn, slow down, speed up, come, heel and, if necessary, whoa or stop. The sooner the dog learns to handle properly, a good portion of the hard stuff is over. However, don't forget that all phases of training require timing, and when to pressure a dog into learning these things is critical. Some are basic and should be worked toward immediately, but there are no hard and fast rules. Each dog is an individual, and this is one of the cardinal rules of training—experience is all important, and it's here the professional proves his worth.

Suppose a birdy young dog handles fairly well. What happens when he finds a bird? Then what should happen when he finds a bird? There's only one thing required of a dog when he first locates the quarry . . . point, point, point! A term called "staunchness" is used here to indicate the firmness or intensity with which a bird dog points. A dog can be taught to hold point or be staunch, but this is very critical and a training error can cost you what could have been a fine dog. At any rate, a dog can be made staunch and most dogs need to be made more staunch than they naturally are. Intensity, though, is another story and it can't be taught. If it's 90°, humid, and not a sign of a breeze and that old bird dog is dragging his tongue, then all of a sudden he's on point: his tongue is gone, his nose is quivering, and you can just barely tell he's breathing; that's intensity. Real intensity is the mark of a champion and it's bred into a dog and never taught.

At this point in a dog's performance the style on point is important, but we'll leave this critical analysis to the field trial people for now and move on to the next thing.

The dog is staunch and the birds are there. You flush the birds, and the dog, if finished, shouldn't move an inch. He should be steady to "wing." The birds are in the air and you shoot; he better still be in the same spot he first established point. The dog is now "steady to wing and shot." Getting a dog to do this isn't usually easy, but to be considered a finished dog, he must do this consistently. Furthermore, he must await your command to fetch and then hurry out to retrieve the downed bird—and "hurry back." In the case of a miss, he should come to heel on command and walk with you in the opposite direction.

This is the end of the road. If all these aspects of bird dog behavior are performed well and consistently, the dog is finished and has joined the ranks of the bird dog. For every 100 pointing dogs in the field, perhaps, just perhaps, *one* is a real bird dog!

As this photo was being taken the bird was flushed and a shot fired. Tommy watches from the exact spot he first established point, awaiting command either to "fetch" or "come to heel."

"Trip the Light Fantastic"

FOR TROUT

By PETE ELKINS
Lexington

THE stream turned left around the base of a boulder. Near the base, the water was dark with the velvet blueness of a deep pocket. Three feet from the beckoning darkness flowed the main current, swirling around the exposed rocks of late summer. Between the heavy current and the boulder was where he had to be. Almost crawling on wader-clad knees, the angler approached from a downstream position. Then in one graceful move, the fly rod arced upwards, paused briefly, then pushed forward, rolling the supple flyline twenty feet upstream. The tiny, brown-hackled fly settled softly in the dark water, and began a

Author Elkins admires two-pound rainbow, proof that light tackle does the job in crystalline trout water.

slow drift in the subtle crosscurrents of the pocket. One moment the water held only the deceitful fly; the next, there was a movement deep in the blue water, then a golden flash, a flash with precise red dots and opening white mouth. A flash with dark spots and heavy caudal fin. The angler lifted the rod to prick the two pound brown trout into surging fury which would end in futile thrashing against the meshes of the fisherman's net.

Many miles away, a lake shone smooth and hot under summer sun. In the crystal-like waters, rainbow trout finned languidly. The rainbows ignored the offerings on the long lines hanging from the sides of the many boats overhead. One large trout, sixteen inches of emerald muscle, flashed toward a descending worm only to stop inches away. To the rainbow's sensory perceptions, something was vaguely wrong with food that hung stiff and unnatural in the water. The big trout turned away, his attention caught by a tiny glint of light. The glint grew larger and brighter, whirling through the water free and unattached. Something clicked in the trout's brain to send it lancing open-mouthed toward the gold spinner.

These two incidents occurred on South River in Rockbridge County and Lake Douthat respectively. However, the scenes could have been played on any trout water of Virginia. Certain factors exist in these situations: low, clear waters of late season, trout that are wiser to the ways of most fishermen, and light monofilament lines testing no more than two pounds.

Many trout fishermen in Virginia employ six- or eight-pound test lines throughout the season. Admittedly, heavy line will take trout during the easy times of opening day and the week after. In July and August, these same lucky anglers who creeled their limits in April lament the absence of trout from local streams and lakes. The trout are still there, in fewer numbers certainly, but in much greater fear of mankind.

April trout are to late-season trout as city-park squirrels are to hunter-wary woodland squirrels. As a trout survives the onslaught of April fishermen, it grows wise in the ways of metal hooks and heavy lines. Its diet changes from oversized man-made offerings to aquatic insects and stream forage fish. Somewhere in the blunt head of a hatchery-reared rainbow lurks the racial memory of winged shadows over a wild stream as ospreys search the shallows for unwise and unwary trout. Ingrained in the very being of a brown trout is the raking scar left when a black bear almost became a successful angler. These memories revive quickly in the stocked trout, and the sudden shadow of a rod or clumsy fisherman sends the trout darting in panic for the solid protection of a rock or undercut bank. A panicked trout will not strike any offering, bait or lure.

Two pound line drastically weighs the fishing balance in favor of the angler. Light line used in combination with an ultra-light spinning outfit does several things for the angler. Light line enables the angler to effectively employ the diminutive lures and bait that are necessary in thin water. A 1/16 oz. gold spinner can be cast thirty feet with two pound line. The spinner can be plied in water less than a foot deep with telling effects upon any nearby trout.

A lure or bait acts much more lifelike on light mono. There is no unnatural drag or stiffness to give a trout pause for a second thought about the folly of his ways. Live bait can be fished without any additional weight. Fished in this manner, bait becomes a part of the stream's life, moving freely with the current to beguile the feeding trout. In spite of the "sport" aspect of artificial lures, there can be no argument against the fish-taking reliability of live bait, particularly worm or single salmon egg, when cast upstream of a likely rainbow lair, to drift naturally into the trout's feeding zone. The strike is always deliberate and sure.

After the strike, a light line also provides the angler extra excitement and even insurance for the inevitable day when the trout will be in the lunker class. Light line an insurance against losing a lunker brown or rainbow? This seeming paradox is true because the light tackle trout fisher-

Wick Vellines nets hefty rainbow that fell to a tiny gold spinner trolled slowly on two-pound test monofilament.

man learns how to properly play the trout; to obtain maximum work from the flexible rod and minimum effort from the fragile line; to make the trout come into the outstretched net with all energy spent. A trout's fight should be in the arena of the stream, not in the encircling meshes of a landing net. Most big trout, two pounds and up, are not lost to broken lines, but rather to hooks that rip from the trout's fragile mouth because the angler put too much pressure on the fish.

Two pound mono on a good spinning reel and lightly adjusted drag is a match for any trout in Virginia, *if* properly used. Close attention must be paid to knots on light tackle. Any knot, even the best, weakens a line. Since there is little margin for weakness with two pound test as the starting point, the fisherman should brush up on his improved clinch and blood knots.

If all this sounds like unnecessary bother, completely eliminated by six or eight pound line, remember that the rewards are higher in terms of fish hooked. Douthat Lake near Clifton Forge serves as a good illustration of the value of light line. Douthat's trout are rather unsophisticated as compared to fast water trout, but their vision in the clear, still waters creates problems for the casual angler. There are days when everyone catches trout at Douthat; but there are other days when the only things stirring are paddleboats and luckless anglers. On those days, the light tackle man will continue to do a brisk business in hard-fighting rainbows.

Perhaps the best trout fishing in Virginia occurs on Douthat when the rainbows are hitting spinners on two pound line trolled far behind a slowly moving boat. Strikes under those circumstances are things of beauty. First the light rod tip whips downward as the reel's drag begins its buzzing song, then far behind the boat, the water opens to eject an upside down rainbow flashing green and silver above the blue water. Two or three more jumps and hard sprinting runs brings the dance to an end. If there were theme songs for trout fishing in Virginia, "Trip the *light* fantastic" would be the only musical choice.

An ultra-light spinning rig and a box of assorted 1/8 and 1/16 ounce spinners will take trout like these even in the low water of late summer.

OUR ELDERS

By CARSTEN AHRENS
Lakeside, Ohio

THIS story has nothing to do with our old folks, respect for same, the generation gap, or any allied topic. The "Elders" we are talking about for the most part are good old American shrubs, widespread, and producing fruit that can become a gourmet's delight. Old records show that elderberries were included in the diets of both the early settlers and the American Indians.

. . . the common elder (Sambucus *canadensis*) . . .

This well distributed American shrub is known by all jelly fanciers, pie lovers, and to those who make their own wine. The bush may grow to ten feet in height and bears soft, green compound leaves, each composed of from 5 to 11 leaflets. The flower clusters are flat and may be a foot across; they are composed of hundreds of tiny creamy-white flowers. Bees cross-pollinate the blossoms, carrying away considerable pollen which they use in making their bee bread. This is a combination that includes pollen and nectar: the pabulum for baby bees. Though the Elders are good members of the very big and sweet Honeysuckle Family, they produce little nectar; consequently, only a very small amount of elderberry honey is manufactured.

In late August the Elders bend low, weighted down by their heavy clusters of plump purple-black berries, swollen with juice. It is wise to watch the bushes at this time for a great many birds are willing to help with the harvest. Usually several pickings are in order, for the clusters that hang in the sun ripen faster than those growing in the shady interior of the shrub.

. . . other relatives . . .

The red berried Elder (Sambucus *racemosa)* is a more ornamental shrub than is its black-berried cousin. It may grow to 12 feet, has compound leaves made up of 5 to 7 leaflets, and has its minute white flowers arranged in a dense lilac-like cluster instead of a flat one. In time the brightest of scarlet berries take the flowers' place bringing a decided glow to what might be an otherwise undistinguished landscape.

All the Elders prefer rich lowlands, but they are found almost anywhere birds chance to drop their seeds. They are partial to swamps, often edge brooks and ponds, and become a part of the margins of most woodlots. They are among those adventurous plants that move in first after a forest fire.

The European Elder (Sambucus *nigra*) has been imported here. It is much like our common Elder; its berries are black, juicy and similarly utilized, but the shrub is much larger, growing to thirty feet.

Another interesting Elder (Sambucus *pubens*, variety, Chlorocarpa), used as an ornamental, has white berries.

The Elders have an insect pest that is exclusively theirs. It's one of the long-horned beetles with the descriptive name of "yellow-cloaked knotty-horn" (Desmocerus *palliatus*). A handsome, dark blue insect, a good inch long, it is easily noticed by the inner third of the wings being a bright orange-yellow. The adults often gleam on the leaves or flowers, but the young are grubs that hollow out the stalks, causing them to break with the wind. Currant borers (Synanthedon *tipuliformis*), the larvae of a moth, are also said to attack Elders.

. . . elderberry topping . . .

Along about the end of August I gather the black-purple fruit heavy with juice. I prepare it as one would in jelly-making. The same amount of juice and sugar is used but only ⅜ as much commercial pectin is added as the recipe calls for. This hot liquid is paraffined as one would jelly. It's a rare fall that I make less than three gallons of this dark, rich combination that we use as a delicious, fragrant topping on cornbread, cereal, ice cream, or puddings.

. . . and elderberry pie, too . . .

The mention of "elder pie" to farm-reared folks brings a faraway, fond look for this concoction has a flavor that is truly delicious. I haven't seen this pastry even in country restaurants in a score of years. I suppose it is because of the time required in preparing the fruit. This is a bit tricky for the berries, and mother said a pie took 6000 of them, should be completely free of the tiny twigs. Mother's pies had double crusts, plump with a mixture of

4 cups elderberries
3 tablespoons flour
2 tablespoons vinegar
1½ cups sugar

Aunt Florence's pie also had a double crust but her recipe called for a mixture of

2 cups elderberries
1 cup sour cream
1 tablespoon flour
1 cup sugar

Ah, me! I'd like a wedge of that right now!

The white, flat June flower cluster of the common elder is a promise of the black-purple fruit to ripen in August.

Taut with juice, the ripened berries are ready to yield a distinctive flavor to a vanishing dessert.

Common elder shrubs seem to enjoy growing in the crowded margin of a wood lot.

VIRGINIA WILDLIFE

CONSERVATIONGRAM

Commission Activities and Late Wildlife News . . . At A Glance

NEW COMMUNICATIONS SYSTEM ACTIVATED. A new communications system utilizing frequency modulation (FM) in the very high frequency (VHF) band has recently been placed in operation by the Commission of Game and Inland Fisheries. The new system will supplement and enhance the communications network currently in existence. Additionally it will eventually provide for state-wide contact between all units, both fixed and mobile, which are assigned to the Game Commission. This type of "blanket" communications was not possible under the previous arrangement.

Conversion to the VHF part of the communications spectrum practically eliminates the annoying "skip" effect which is a phenomenon peculiar to the lower radio frequencies. It will also enable more reliable radio contacts since the higher frequencies are less crowded.

The new system consists of base stations at the Commission's headquarters in Richmond and at Back Bay near Norfolk, an intricate system of automatic relays and the mobile units utilized by the Law Enforcement Division personnel.

JAMES RIVER STUDY PLANNED. A preliminary aerial survey of the James River between Richmond and Bent Creek in Nelson County revealed only 18 fishermen in action on the 52 mile stretch, reports John Kauffman, Fish Biologist who is beginning a study of the river fishery and the use of Commission-owned lands along the route. Eleven cars were seen at landings and other access points. The survey was flown following heavy rains while the river was still relatively high and muddy. Those making the survey felt that use was far below the amount that could be expected on a good day. Observers admitted difficulty in spotting bank fishermen because of overhanging trees. Other flights will be made, continuing this preliminary study of the river fishery.

Also included in the aerial survey were a number of Game Commission Lakes in Virginia's Piedmont. Twenty-nine boats were seen and 59 cars were counted at the four lakes checked. The number of fishermen was not recorded.

NEW ENFORCEMENT POSITIONS APPROVED BY GAME COMMISSION. Twelve new Assistant Game Warden Supervisor positions were approved by the Virginia Commission of Game and Inland Fisheries at their meeting in Richmond, May 28, according to Commission Chairman Custis L. Coleman. Six of the new supervisory positions will be primarily involved with coordinating law enforcement work in each of the state's six law enforcement districts, and the remaining six would mostly coordinate educational efforts within the districts. All will be commissioned game wardens and assist in regular law enforcement work. A timetable was set up for incorporating the new positions, making three effective immediately, three effective January 1, 1972, and the rest after July 1, 1972, primarily for budgetary reasons. All must first be approved by the State Director of Personnel.

The 28 Area Leader positions will be retained in the game warden ranks and efforts are to be made to keep the warden force at a minimum of 120 men.

TURKEY KILL SETS NEW RECORD FOR SEASON. A whopping harvest of 2211 spring gobblers makes this the greatest spring turkey hunt ever in Virginia and brings the total 1970-71 turkey kill to 6464, more than 400 above last year's record total, reports Game Division Chief Dick Cross. Wythe County provided the most birds for spring gunners who bagged 135 gobblers there. Other important counties in the spring kill were Bland with 88, Grayson where 72 were bagged, Caroline with 69, Augusta where hunters downed 68, Bland and Smyth with 65 each, and Fauquier where 61 gobblers were bagged.

Hunters complained that a late cold spring had greatly reduced gobbling activity, but the kill figures don't bear out these pessimistic observations. The six-day extension of the season to compensate for a like number of days lost during the fire closure did not appear to have caused any noticeable change in the kill pattern. A number of eastern Virginia counties open to spring hunting for the first time in 1971 undoubtedly helped swell the total bag.

Hokey Honkers at Home

Text and Photos by
BILL WEEKES
Blacksburg

VIRGINIA Tech at Blacksburg is doing its part to promote the growing numbers of the "grandest of all wild fowl," the Canada goose.

While diminishing marsh land is diminishing ducks, the comeback of the Canada continues. This "king, aristocrat, trophy species" has doubled its population the past 20 years to 1.25 million, with 40 percent of this number using the Atlantic Flyway.

Harbinger of spring for many, whose big V-shaped formations also feather a symbol of autumnal migration, the Canada goose "enrolled" at the Hokey campus last fall with a honk and a hope of establishing a permanent colony there.

Four of these "epitomes of wildness," two males and two females, glide about Tech's two duck ponds, their long, black, swan-like necks holding aloft heads patched with the familiar white chinstraps. After mating in April and May the resulting first generation hopefully will initiate a population that will eventually spill over into nearby rivers and lakes, a population to be harvested by hunters.

Now, their presence is for esthetic purposes, part of an overall effort by individuals at the university to encourage growing wild bird aggregations there under the approval of VPI's Wildlife Commission, which is responsible for wildlife on the college.

"Private management for Canadas is a fairly common practice, especially on the Eastern Shore," noted Glenn Dudderar, Tech ornithologist.

The Canadas were obtained through the efforts of Bill Bennett, superintendent of grounds at VPI. Raising his own rare types of geese, ducks, and swans at his home near Christiansburg, Bennett pictured the ponds at Tech as a likely setting for *Branta canadensis.*

Seven adults were donated to Bennett by breeders from Washington, D.C., Connecticut, New Jersey and parts of Virginia. By mid-February three of the honkers were gone. One had been shot and the same fate was suspected in the case of the other two.

The remaining four are pinioned. The manus, or the wing's outer joint, to which are attached the nine primary feathers, was clipped off each bird so it could not migrate, but, instead, would remain at VPI to breed. The first and second generations out of these two pair will also be grounded. This will enforce a stable base for a breeding stock before birds born in 1973 and thereafter will be allowed to fly south in the fall.

"What we are doing with these birds now is establishing a 'north' for their offspring," Bennett explained. "Hens born here will be imprinted to return here each spring, although traditionally one thinks of the Canada goose migrating to the northern reaches of the United States and Canada when spring arrives."

But Canadas have been breaking tradition for two decades. Formerly the geese, which normally breed in Canada's forest-muskeg lowlands and Arctic tundra, would winter in great numbers from North Carolina south. Now, 90 percent of the flyway's winter population sticks to the tidewater areas of Maryland, Delaware, Virginia and N.C. The Old Dominion's over-wintering guests average about 35,000. One reason why the honkers remain on the upper Atlantic coast is the availability of upland agricultural foods. Mechanical corn pickers have left large open fields of refuse. So why bother to go farther south for food?

At Tech, the Canadas, which are fed grain as a supplement to their grazing, are being managed to breed there and migrate in the fall to the more traditional southern areas. Bennett said males born at Tech will more than likely never return, but rather follow strange hens to new breeding grounds. However, the Tech-bred ganders will be replaced by new males winging hot on the tail feathers of campus born females returning to "classes" for "the spring quarter."

Dudderar envisions a Canada population at Tech big enough in a few years to decoy new flocks to campus each fall.

"Two or three flocks of 20 to 30 birds are now coming into New River each fall and some day, if enough fly out of Virginia Tech," he said, "new flocks could be attracted to Blacksburg."

He said there could be a shootable population of Canadas in the Montgomery-Pulaski area in ten years if the present two pairs "take."

Predation—human and otherwise— is an important deterrent to a Canada goose's reproductive timetable.

"Snapping turtles can reduce the number of goslings by as much as three-fourths," Dudderar observed. "This spring we're going to get some work-study students to set lines to get these turtles."

The lines will be baited with hooks and attached to poles topped by white flags. When the flags start waving, one knows something has been hooked.

Dudderar has witnessed little ducks, following their mother in neat little files,

suddenly pop under water into the jaws of a hungry snapper.

The Canada, a waterfowl with about a dozen subspecies, lays from five to nine eggs, which take about a month to hatch.

Before bringing the Canadas to Tech, Bennett was advised by one R. D. Van Deusen, wildlife specialist at the W. K. Kellogg Bird Sanctuary in Augusta, Michigan. The Kellogg Flock, nationally reknown, began in the 1920's and today numbers 1,200 birds that are spread over an area with a 30-mile radius.

"We have found Canadas to be very adaptable to man and his exploitation of the countryside," Van Deusen reported. "For instance, our breeding pairs are imprinted to nest on islands in ponds (it might be a muskrat house or earthhissing mouth and wiggling neck, his eye of fire and his behavior upon defeating a rival:

". . . The mated gander has caught hold of his antagonist's head with his bill; no bulldog can cling faster to his victim; he squeezes him with all the energy of rage, lashes him with his powerful wings and, at length, drives him away, spreads out his pinions, rushes with joy to his mate, and fills the air with cries of exultation."

The gray-brown Canada, second in size only to the swan, is large enough to injure even man, should a gander's ire be aroused. The bird ranges in length from 22-39½ inches, weighing seven to 14 pounds with a wingspread of 5-6½ feet.

en.) So we encouraged our Soil Conservation Service to advise the installation of islands when building farm ponds. Thus, each year now we get reports of new pairs automatically moving into these newly created ponds.

"I personally feel," he continued, that the real secret (to forming a colony) is to obtain several good type Canada geese breeding pairs. Get them oriented to a centrally located pond or flooding, ground the subsequent young at least two years, and then allow their offspring to fly free. We find that the locally produced young geese are quite nomadic in their movements."

The Canada's fidelity to its mate is one of the qualities humans find ennobling in the bird.

Audubon, writing in 1840, found the courting of the gander rather amusing. He described his strut, pomposity, his

Audubon described how he got too close to a goose nest one time and how the gander struck a blow on the right arm which Audubon "for an instant thought was broken."

Toronto's *Evening Telegram* of May 10, 1941, related how a man was knocked from his horse by a Canada goose. The bird swooped down 100 feet and struck a resident of York County:

"For some years Canada Geese have been regular visitors to the ponds of this man's property . . . the horse he was riding accidentally stepped on and destroyed a nest. Two geese made a power dive described above and, although the rider ducked low over the horse's neck, the force of the blow when one of the birds struck him was sufficient to knock him from the saddle. And the impact killed the goose."

Wariness and sagacity are dual qualities of the Canada admired by man the hunter. When these birds congregate on the Tech pond islands, from time to time (their eggs are laid there), at least one acts as sentinel, on the lookout while the others are burying their heads in their feathers preening.

One day Bennett brought a gander to the ponds to release as a replacement for the male that had been mysteriously shot to death. He held the large bird in his arms. Behind this writer, who was facing the bird, a dog had appeared on the scene, maybe 150 feet away. The goose immediately noticed the canine. He stiffened his neck and his eyes glistened alertly. As the dog trotted by, the gander opened his mandibles, flapped his tongue like an angry snake hissing malevolently. Canadas know friends from foes.

But temperament, alertness and the placid beauty and grace depicted by the honker in the domesticated surroundings of a pond are not the traits that have inspired the affection, awe and respect paid *Branta canadensis* by man. Nor is it the pretty face that prompts us to call the Canada the "big game of our waterfowl." Nor is the fetching turn of its black neck entirely responsible for the Bureau of Sport Fisheries and Wildlife's including the honker on its emblem, nor for the National Wildlife Federation's display of the species on its letterheads.

Though quoted to be more persistently hunted over a wider range of country and for a longer period than any other American game bird (ten percent of the Atlantic Flyway's annual gun harvest of about 150,000 comes from Virginia), the Canada is loved for other reasons. Innately we are impressed by its wildness, perhaps reflected better by it than by any other species. Naturalist Arthur Cleveland Bent may have put his finger on it:

"When once seen the grandeur of the Canada goose creates an impression on the mind which even the casual observer never forgets. As the clarion notes float downward on the still night air, who can resist the temptation to rush out of doors and peer into the darkness for a possible glimpse of the passing flock, as the shadowy forms glide over our roofs on their long journey? Or, even in daylight, what man is so busy that he will not pause and look upward at the serried ranks of our grandest wild fowl, as their well known honking notes announce their coming and their going, he knows not whence or whither?"

PRESCRIBED BURNING FOR BLUEBERRIES

By JOE L. COGGIN. *Research Biologist*
J. W. ENGLE, JR., *Game Commission Forester*

PRESCRIBED burning has been used as a wildlife management tool for many years, and a great deal of research has been conducted to determine the real effects of burning upon wildlife and the habitat. The variables involved in a burn, such as temperature, humidity, and wind, are so numerous that a research project on the subject usually finishes with "what happened" at a certain place, to a specific habitat and exposure, and under a given combination of weather conditions. After a prescribed burn one usually wonders what would have happened if the burn had been on the other side of the hill, with a little different habitat and exposure, and with a little different combination of weather variables. There's just no end to it!

The following information on blueberry production was obtained from a 12.7 acre controlled burn area on the Goshen Wildlife Management Unit.

The burn was conducted in order to increase blueberry production, and it was obvious that the ground already was almost covered with blueberry plants. We did not have any pre-treatment data, but we did have an area about the same size, exposure, and vegetation type next to the burn area that could be used for a "control." This meant that we could compare blueberry production on the burned area with production in a very similar area nearby that had not been burned.

We wanted to study the effects of prescribed burning on blueberries because of the value of the berries as wildlife food. We also wondered whether the blueberry might be an "indicator plant" which could tell us when to burn an area again: that is, how many years it would take for the blueberry production to be reduced to approximately that of the control.

The study began on July 14, 1967, and the field work was completed July 14, 1970.

The Area:

The area to be burned was on the headwaters of Guy's Run (Goshen Wildlife Management Area), on both sides of the saddle between Guy's Run and Kerr's Creek. The soil was poor and produced very poor timber growth. The predominant timber was pitch pine. Trees 60 to 70 years old were 8 to 10 inches in diameter, breast high, with a height of 15 to 20 feet. The volume of timber was so low that the only type of sale possible was a clear cut to salvage pulpwood before burning. About half the area was logged, yielding 87 cords of pine and 20 cords of hardwood pulp, an average of

12 cords per acre. The thick undergrowth was bear oak, laurel and "huckleberry brush." Part of the area had all the vegetation mashed down with a bulldozer, to see what differences, if any, could be observed later, but no differences were detected. The slopes were steep, as much as 30%, with north, south and southeast exposures. Firelines were built with a Cat. D-6 Bulldozer.

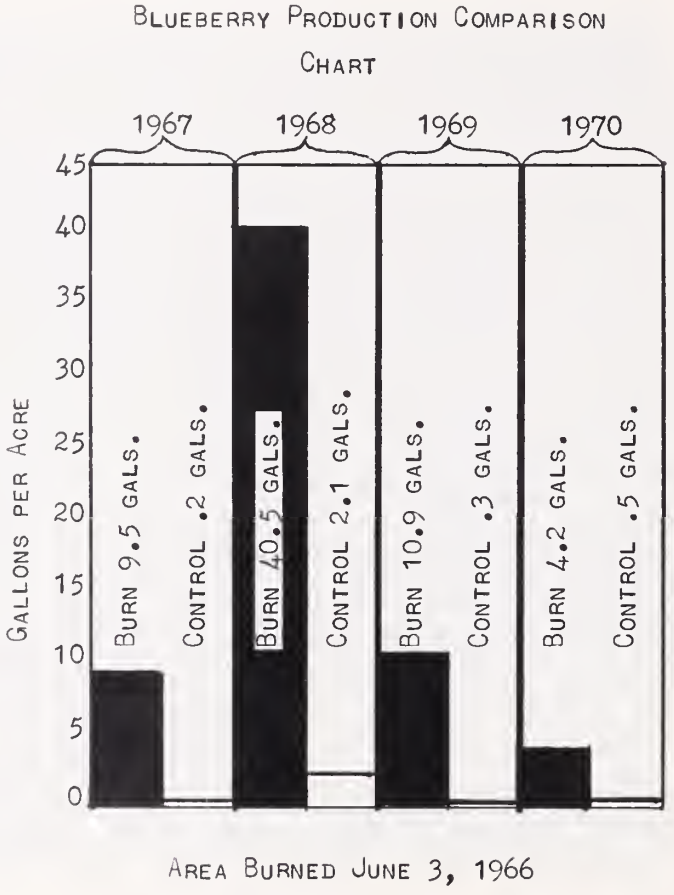
The Burn:

This was our first attempt at a "prescribed burn" in the mountains. We tried to make certain it was conducted in a safe manner, and it's a good thing we did! Most available data on prescribed burns are from burning in the flat lands, piney woods of the Coastal Plain or Piedmont. We knew the steep slopes would increase wind velocity, but nobody

knew how much. We were burning late in the season (June), but the oak leaves at this 2600 foot elevation were the size of squirrel ears. Meaning, the hardwoods were full of sap, under pressure, and if the proper heat could be applied, a good kill of hardwoods could be expected. We had fuel in the form of the year-old pine slash on the forest floor.

On the day of the burn weather conditions appeared ideal, from a forester's point of view. It was six days since the last rain, wind velocity was from the SW at 1 to 5 MPH, relative humidity was 44% (Stage 1, Build-up of 22, Spread of 23—a high-class burning day).

Foresters like to use the term "prescribed burn" instead of "controlled burn" because the burn is prescribed to do a specific job, and it is sometimes just barely kept under control. In fact, if the fire does not "scare the daylights out of you," it probably is not hot enough to do the job you



want. This was so true in the case under discussion! We had many firebreaks to stop the fire at any given point. None of them held! We had about twenty visitors and advisors from the Virginia Division of Forestry, and other conservation agencies. Their status soon changed from visitors to very necessary workers, and without them we might have burned all the vegetation on the entire mountain. The soft wind soon changed to a velocity of 30 MPH or better as it came racing up the slopes. Some green gum trees two to four inches in diameter were burned off four feet above the ground. Some of the pine seed trees we had left "crowned" and burned like candles. We learned what a slope can do to the burning rate of a fire, and we learned that a small area is more hazardous to burn than a large area. We did not have room enough to get the desired burned-over width in our backfire before the head fire was on us. The fast moving, intensely hot fire raced over the ground, burned off all the vegetation, but left the thick humus layer on the forest floor and did not expose the mineral soil.

The Method:

A systematic random sample method was used in which five 1/100 acre circular sample plots were located in the burn area.

Each plot was marked by tying a piece of red tape on a nearby tree or bush. A stake marking the center of the plot was driven into the ground. This same system, of course, was used in the control area which was contiguous to the burn area.

Sampling was done by going to the plots in the burned and control areas each year (July 14th) and picking all the blueberries in each plot, whether the berries were green or ripe (this was a little early for maximum ripeness of the berries). The berries were then taken to the office, cleaned of debris and weighed in grams. The weight was recorded for each plot separately. From this basic data we could determine grams per acre, pounds per acre and even gallons per acre.

Analysis and Results:

The accompanying chart shows the comparisons of blueberry production between the burn and the control area during the years 1967 through 1970.

The first year after the burn there were *44 times* as many blueberries, in gallons per acre, in the burned area as in the control area.

The second year, 1968, was the most productive year recorded. Even though this was true in the control as well as the burn area, the burn area produced 19.3 times the control area. There is a very obvious decline in 1969 and 1970 in the burn area. The difference in yearly production in the control area is very small throughout the entire period. The highest average calculated was 2.1 gallons per acre in the control.

Four years after burning the burn area production decreased to 4.2 gallons per acre, after the high production of 40.5 gallons per acre in 1968. This is still 8.4 times the control production of .5 gallons per acre. This seems to indicate that the area should be burned at approximately five-year intervals if we consider blueberry production as the criterion for burning.

The data is presented in gallons per acre because this is the standard usually used in measurements of this type. However, the data was originally calculated by averaging the five plots on each area by weight (grams). This was then converted to pounds per acre and an average weight per gallon was determined by weighing the berries. Since the berries were a little more mature on July 14th some years than others, this would cause a little variation in the weights. However, data from the control area and data from the burn area were always analyzed the same way. Although the true production figure in terms of gallons per acre is limited by the variation caused by the difference in the time of year the berries mature, it is clear that production is much higher in the burn area, and there is a sharp decline in production after the second year following the burn.

This data indicates that blueberry production, which is increased by prescribed burning, is so reduced by the fifth year that burning should again take place to maintain a good crop of this wildlife food.

HOW THEY DIE

By JACK RANDOLPH
Spring Grove

USDI Fish & Wildlife Service
Prime bucks like this one are the result of effective herd management, not complete protection.

"LOOK, Mommy; look at the deer!" cried the little girl.

Her father slowed the family car as he, his wife and young daughter watched. There were two, a nervous doe and her spotted fawn. The doe grazed in the green field while the fawn attempted to nurse.

"Aren't they pretty," whispered the mother.

"Where's their daddy?" asked the little girl.

"Oh, he's somewhere nearby," replied the father. "Daddy deer are very wary, Honey."

"What does 'wary' mean?" asked the daughter.

"Wary means careful, Honey. Daddy deer are very careful. They are afraid they will be shot."

"Why do people shoot deer, Daddy?"

"I don't really know. I guess they kill them for their meat or just for the sport of it."

"That's something I just can't understand," interrupted the mother. "How can anyone kill one of those beautiful things?"

"Look, Daddy. Is that the daddy deer?"

"Where, Sweetheart? I don't see another deer."

"On the other side of the road, Daddy. He's just lying there."

"Oh, the poor thing!" cried the wife. "Do you suppose someone shot him and left him lying there?"

"No," replied the husband. "Judging from those skid marks I'd say it was hit by a car."

"Is he the daddy deer, Daddy?"

"I don't think so, Baby. Daddy deer have horns and this one hasn't any."

By this time, her tail twitching in agitation, the edgy doe had led her youngster to the edge of the field. The pair disappeared as they stepped into the woods. As the car departed the little girl remarked, "I'm glad that wasn't the daddy deer." For little girls everything must have a happy ending.

This little tabloid is typical of thousands that take place each year as families visit the springtime countryside. Seeing deer in the fields is often the high point of an afternoon's drive.

Unfortunately, these brief encounters are the only moments many people share with wildlife. To see wild creatures briefly is not to know them. One must look much deeper to fully understand wild creatures and to gain an appreciation of the world in which they live.

Many people actually believe there is such a thing as a deer family in the human sense. Their total "knowledge" of deer has been gained through reading stories where the animals are "humanized," such as "Bambi" or recent episodes in the comic strip "Dondi."

While these stories are highly entertaining the authors must, in the interest of good taste, overlook some of the facts of a deer's life. Generally in children's animal stories the only accurate element is the picture of the appealing animal. From there on the authors give the wild creatures human instincts, not their own.

In the funnies, for example, the daddy deer always wears a set of antlers, even in the spring. The polygamous nature of a buck deer does not lend itself to children's stories, so the author must change this fact of nature. Instead of showing the buck's true behavior he fits him out with a complete human family—a wife and a fawn.

The buck of the comic strips is a gallant animal, the protector and provider for the family. This image would be slightly tarnished if he were shown in his true light. In winter, for example, when times are lean the larger bucks will compete with the smaller deer for low hanging browse and later, when the lower browse is out of reach of the smaller deer, the bucks will feed on the higher limbs which only they can reach.

Poor comic book copy also is the buck's habit of following safely behind a bevy of does as they travel through the woods. Not very gallant these daddy deer.

Perhaps the most unfortunate thing is many people have little more than a comic book education when it comes to wildlife. This is poor equipment to use as the basis for judgments in this age of acute ecological awareness. The public is demanding a greater voice in making decisions concerning the environment, but before an uninformed public can hope to benefit wildlife we must learn how animals live—and how they die.

The facts of a deer's life are not all pleasant interludes on a sunny spring afternoon. Unlike little girl's stories that must always end happily, a deer's life seldom has a happy ending.

The little girl could have asked, "Daddy, why are there deer in the woods?"

The father may have answered, "For you to look at, dear."

N.J. Div. of Fish & Game

One thing is certain: when the end comes it will be either quick and violent or slow and painful.

His answer would not be wrong—only partly so. Undoubtedly deer exist to be admired. Perhaps it was intended that deer be esthetically appealing to man. It was, of course, this great appeal that prompted us to go to such lengths to propagate and protect them. However, in that complicated relationship between wild creatures we call nature, the deer has been assigned a more practical role.

People tend to view wild animals as "good" or "bad." We judge animals by human standards. Animals that are pretty, good to eat or make fine pets are "good" animals. Those that eat our crops, kill our livestock or are otherwise offensive to us are "bad." Deer have always been "good" and anything that destroys deer, including hunters, is labelled "bad."

In nature animals generally fall into one of two categories: those that eat other animals, the predators, and those that are eaten by other animals, the prey. Prey animals have generally been assigned the unhappy task of converting green grasses and vegetable matter into red meat for meat-eating animals. A prey animal's first line of defense is a formidable capability of reproducing its kind. People are usually sympathetic to prey animals unless they become a nuisance. Mice and rats are prey species that arouse little human compassion, but when other prey animals such as deer, rabbits or squirrels reach their untimely but intended end, we humans think it's cruel.

As a prey animal the deer was originally an important link in the food chain that supported the mountain lion, wolves and Indians. Now that these great predators are gone from our woodlands one would think that these animals would thrive. Unfortunately the deer has now become an end to an incomplete food chain. With their natural predators gone, their excellent capacity to reproduce becomes their worse enemy. That is, unless man takes on the task of substituting for the predators he has destroyed.

A classic example of what happens to deer that are over-protected took place early in this century. Teddy Roosevelt, when he was President, established the Grand Canyon National Game Preserve in an area of Arizona known as the Kaibab. The primary intent was to make this a preserve for deer.

In order to ensure the survival of the deer, hunters and trappers were called in to remove the predators. No hunting of the deer was permitted.

For a while the deer thrived. The herd, which numbered 5,000 animals in 1906, grew to 10,000 by 1918. By 1924 the deer were literally eating themselves out of house and

Free running dogs ran this deer onto the ice where they killed it.

N.J. Div. of Fish & Game

home. There were at this time an estimated 100,000 deer on the Kaibab. Browse-producing shrubs and trees were being destroyed. That winter an estimated 60,000 deer starved to death. More died in subsequent years, and the herd was not brought into balance with its environment until the late thirties. The method used to restore the balance was to permit the harvest of the annual surplus by hunters.

There have been other examples of mass starvation of deer in the United States. In some areas starvation was preceded or accompanied by heavy damage to agricultural crops and ornamental shrubbery by deer. Forests can also be hurt by great numbers of hungry deer. Both sportsmen and the general public often fail to appreciate that farmers and foresters provide most of the deer we like to hunt or watch. When deer begin to cost them money, the hard realities of economics bear strong influence on the future of our deer herds.

Photo by the author

Killed by kindness. Many deer are killed by well meaning people who find fawns and believe them lost. Normally the mother is nearby.

Let's, for the purpose of discussion, remove the hunter from the scene and contemplate how that little spotted fawn may meet his ultimate end. We shall find that only two types of deaths are available to wild creatures—quick and violent or slow and painful. For wild animals there are no hospitals with miracle drugs or pain killers. They continue to live in the world our ancestors once knew—the world of the survival of the fittest.

The automobile is responsible for more violent deer deaths than any other agent except hunters. In Pennsylvania recently more than 14,000 deer were killed by cars in ten months. Thousands are killed in nearly every state that has deer. The dollar value of damage to autos is tremendous. No figures are available indicating the number of people who were killed or injured in these collisions. Nor are figures available showing the numbers of deer that were hurt by cars only to die a slow death or experience a painful recovery. In the deer population explosion that would result if the herd were uncontrolled, the number of deer-auto collisions would skyrocket.

Another source of violent death to deer is free running dogs. In states where winters are severe this mortality is substantial. For a deer this is a very bitter end.

The dogs enjoy their greatest success when there is a crust on the snow, strong enough to support them but not the deer. Crashing through the crust the deer tires easily. The crust often cuts the deer's legs leaving a blood trail that arouses the killer lust in the dogs. The deer, weakened by scarcity of winter food, falls easy prey. When the dogs overhaul the deer they slash the hamstrings in the hapless animal's hind legs. When it falls helpless into the blood-reddened snow, they eat the poor animal alive.

In winter an unsuccessful chase by dogs is often fatal to deer. The animal is so weakened from lack of food that it dies from exhaustion. Deer are also killed in this manner by unthinking people who pursue deer in winter with snowmobiles or other rough terrain vehicles.

Starvation among deer is a horrible thing. For the animal it is a painful lingering death. The survivors emerge in miserable condition. Fawns born of half starved does are weak and may not survive. Such conditions set the stage for disease. There are many diseases that prey upon deer, particularly if they have been weakened by starvation or are crowded together in a given area.

Deer also meet other forms of accidental death. From a herd management viewpoint the numbers claimed by freak accidents are insignificant. Among the more common of these accidents are death by hanging when deer are caught in fences, death by exhaustion when they are caught on slippery ice, by starvation when bucks accidentally lock antlers when fighting over a doe, and by other means too numerous to list.

Few deer die of old age. Actually, death from old age boils down to either starvation or disease. When the animal's teeth are worn out, it can feed less and it fails. One end or the other will ultimately claim its victim.

When you view the alternatives, the swift mercy of a hunter's gun doesn't seem as horrible as at first glance. With the natural predators gone, it seems quite fitting that man assume the role of the lions and wolves he has destroyed. If man is to protect man's crops, his forests and his highways, it is up to him to manage his deer herds. But man must be a responsible predator.

The hunter has many responsibilities. His first is to the deer. He must carry enough gun and be sufficiently adept at using it to deliver the swift, one shot kill that befits a sportsman. Sadly, owning a hunting license does not an expert make. Many hunters know little more about deer than our family in the car. For example, many hunters abhor killing antlerless deer, even when it is legal to do so. For some reason many believe that a doe season is a bonus given them for being good guys. In fact, the season is declared to take a surplus that will maintain the balance of the herd and protect the interests of the hunter, farmer, motorist and forester.

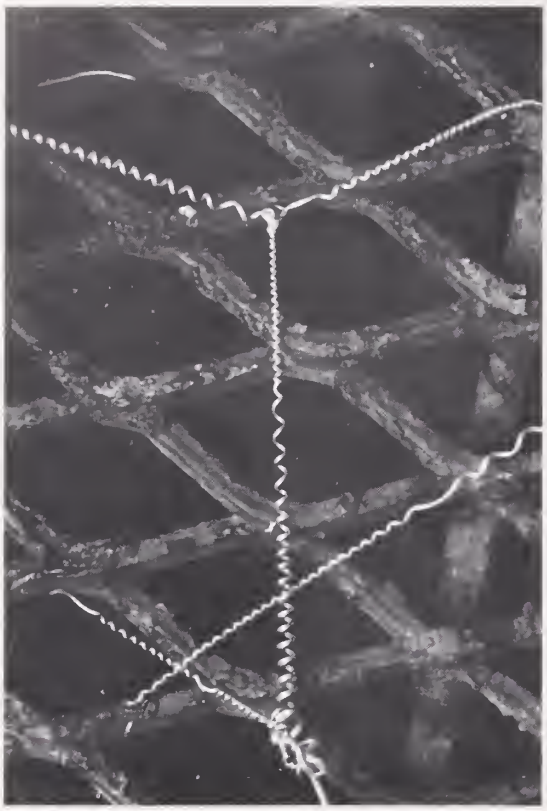
The goal in deer management is to maintain deer numbers at the highest level consistent with the available food and cover. Seasons are designed to harvest only the surplus. Before man got into the act the wild animals accomplished this chore quite nicely on their own. Now, we in the United States are doing what men have done successfully for centuries in crowded Europe. We are substituting as hunters to maintain the balance of nature.

Proof of the success of our management efforts is evident. There are now more deer in the United States than there were when Columbus discovered this continent. Perhaps some day the word will get out and the time may come when someone will say, "I can't see how they could shoot those beautiful things." And a little voice will answer, "But, Mommy, they taught us in school that some must be shot every year or otherwise there will soon be none for us to see."

WHAT IS IT?

By CARSTEN AHRENS
Pittsburgh, Pennsylvania

MAN'S first notion of a coiled spring such as is found in many screen doors, overhead garage doors, etc., may have been inspired by the ingenious plant parts shown here.



Leif Ahrens photo

It is the coil-producing tendrils of the wild cucumber vine. As these plants grow, they stretch out slender, prehensile "feelers" that coil with the twists graduated so that the loops grow smaller as they get farther and farther from the main stem. They get up in the world by clinging to their neighbors, yet a small animal might pass roughly under or through them or a strong wind might blow over them without tearing the plant loose. The spring-like tendrils allow them to be forced one way or another and then, when the disturbance is over, bring them back into place without damage.

Vines differ from all other plants in that they must depend upon some other structure to help them get up in the world. The Boston ivy has adhesive disks that cement the vine firmly to the walls of my home; if force is used, the vine will tear, leaving the disks intact. English ivy on my garage depends on tough aerial rootlets, or "adventitious roots," that give the stem a millipede-like appearance where they occur. Other vines have leaf (sweet pea), stem (grape), or petiole (nasturtium) tissues modified to form sturdy attachments.

Some vines have no special aids but just twist about a post or tree: a clock-like movement in the hop vine, counter clockwise in bittersweet and morning glory. A tropical vine, the strangler fig, will take over a large tree, completely envelop it, gradually kill it, and develop such strong supporting structures that the vine becomes a tree among its peers while its original prop rots away.

DOGS AND DEER

By WALLACE OBAUGH
Hinton

THE picture on the back cover of the April (1971) issue of *Virginia Wildlife* recalled an incident I had just witnessed.

Hearing something coming toward me through the woods, I stopped to look and listen. It was a small deer, mouth open, tongue hanging; it had been running hard. It passed a hundred feet away, apparently not seeing me.

I had started up the path that leads, along the bottom of a hollow, from where I live into the woods. The deer was on the ridge side above me. His route was taking him quickly toward the ends of both the ridge and its cover of brush. Two hundred more yards would bring him to cleared land within sight of houses. Did he know what he was doing?

He did. The end of the ridge is being reclaimed by nature from pasture land, and offers thicker cover than the woods above it. After resting in this brush about five minutes, the small whitetail crossed the hollow below me and angled back up the opposite ridge. He was moving more leisurely, and seemed to have recovered both his breath and his composure.

It was several more minutes before I heard the hounds. They were coming steadily, making the woods ring with their duet. (I am not a hunter, but I can understand the thrill of listening to a chase.)

Ahead of the baying hounds something else was coming through the leaves. It proved to be a German shepherd type dog, somewhat smaller than the average of the breed, very dark-colored on the back and sides. He was running head up, hunting by sight. Often animals will not see a man standing quietly, but this one spotted me at once. He applied his brakes and reverse at the same time. I yelled to speed up his take-off, but could have saved my breath. He was getting out of there.

Does a dog have a conscience? It is certain that he knows when he is in the doghouse, and where he is out of place.

Meanwhile, the hounds were coming on, a pair of black and tans. They passed me without looking up, noses to the ground. They followed the trail into the thick brush, where they stopped their baying. Whatever trick the little deer had pulled was working. The dogs soon came out and back-trailed in the direction from which they had come.

I was glad, for a couple of reasons, to see the chase so end. For one thing, my sympathies are with the hunted. For another, April—when does are either carrying or feeding young—is an especially bad time for deer to be molested. Finally, this particular one is something of a friend. I have seen him a number of times over the last three years, and almost believe he knows and trusts me.

I called him little, but he is smaller than that, even. He is a runt, a peewee. I would guess his weight at forty pounds and am sure, if he didn't kick too much, that I could carry him under one arm. Yet he is an adult, and a buck. Just before last fall's (1970) hunting season I had a long, close look at him. His antlers were no more than four inches high, but they had four points.

ON THE LIGHTER SIDE

By TONY PHOENIX

THE MAN WHO WOULDN'T CHANGE

THERE are great cosmic reasons for everything, so they say.

That's good. It's the only way to explain away a peculiar thing that happens at our house. You see, we're always behind. It's as if we marked time with a clock and calendar that's not only minutes and days behind, but months and years.

Actually, it's more my fault than my wife's. She has to be watched carefully. She'll jump on every bandwagon that comes by playing a catchy new tune, especially if its route has been widely advertised on TV.

I like to think of myself as an anchor for the household, reluctantly being dragged along the bottom, catching and holding from time to time, then being dragged along again by the winds and tides of uncertain change.

Wife agrees, I think. I heard her mumble something about "old mossyback" just day before yesterday.

No matter. My outlook keeps us from investing time and money in passing fads. I try to keep her memory fresh by reminding her of the hula hoops.

We'd been married only a few weeks when that craze swept the country. She bought a gross from a wholesaler (who, incidentally, knew something we didn't). She hoped to corner the market in our block, she said.

Well, when the novelty of those insane hula hoops wore off, we were left with 137 of the cursed things. Even today I occasionally stumble over one in a dark closet while searching for my single-shot Iver-Johnson. (No one has convinced me that autoloader shotguns are here to stay.)

This brings me to a recent investment we made light years behind everyone else.

We bought a tent. Yes, I know the camping boom started years ago. But waiting this long simply proves the wisdom of my policy of not going off half cocked. We gave camping time to prove itself. It did. We're reasonably sure now that the general interest won't take a sudden nosedive, as it did in the case of the hula hoops.

The family tent has opened worlds we never knew existed. There's something about waking up to the sound of a mountain stream running close by that gets the whole day off to a good start.

Fresh coffee and hot oatmeal never tasted better than it does as we watch the early morning fog lift off the Shenandoah River or Buggs Island or Smith Mountain Lake.

Wait a minute: A word about the oatmeal. It took a few hungry mornings to learn how to cook it.

As any camper knows, instant oatmeal—the kind that comes in the little packages—is one of the quickest and easiest breakfasts you can fix. All you need is a pot of boiling water and a few packages of instant oatmeal.

You can buy packaged oatmeal that someone has already cooked for you. However, you can't buy boiling water. The fun almost went out of camping right here on the first hungry morning.

We found that it's slow and difficult to get boiling water if you don't have a stove. And, quite naturally, I had not bought one of the compact camping stoves that everyone else has because I didn't trust the newfangled gadgets.

Instead, I took a bag of charcoal with us, dug a hole at the campsite, propped three or four brick around the hole, lit the charcoal, then set my kettle of water on the bricks.

I tell you, we were a long time getting any oatmeal that morning.

At the repeated urging of my wife, I finally invested in a stove. Good idea. Meals are quick and easy now. Almost takes some of the pioneering out of camping, though. Somehow I felt closer to nature (probably because we were hungry most of the time) with my charcoal pit.

Too, I should tell you about the very first time we tried to set up camp in a state park. The attempt can only be described as pathetic.

I'd bought an umbrella tent—the easiest kind to set up, I was told. Actually, it probably is the easiest, but this was our first attempt.

After staking down the tent floor like the directions said, the whole family pitched in to erect the aluminum tubes that go over the top and pull the tent walls tight.

There was a great deal of wrestling and shuffling around and grunting as we struggled to get the tubes up, but we almost made it. We had it up and stretched tight when my wife pulled a little too hard on her side, or one of the children let go of his hold to slap a mosquito, or maybe I just relaxed.

At any rate, this sudden movement threw one of the children off balance. He forthwith and posthaste fell into the tent, bringing the whole affair down with a crash.

This touched off an arm-waving discussion between my wife and me that started with accusations of incompetence, rumbled over hula hoops and mothers-in-law on both sides, and ended up with each of us blaming the other in a loud voice for the current international situation.

Campers, though, are a friendly and helpful group. A couple walked over with big smiles, assured us they'd been through the same learning pains, and helped us set up the tent.

We learned a lot as the season progressed. And now we enjoy those mornings I mentioned earlier. In fact, we hate to see this season come to a close. Come to think about it, it's been quite a while since hula hoops or incompetence has been mentioned.

Edited by HARRY GILLAM

Thomas Brook Students Certified Safe Hunters

These students from Thomas Brook Elementary School received their certificates and arm patches certifying them as safe hunters after completing the Game Commission-National Rifle Association Hunter Safety Training Course. Game Warden Fred Hottle presents a certificate to Billy Haun, and Warden Robert Inskeep holds a shoulder patch which was presented to Terry Martin. Wardens Inskeep and Hottle presented the course to the sixth and seventh grade students.

Safety Tips For Reloaders

The above two folders give detailed suggestions for safely handling primers and smokeless powder used for reloading rifle and pistol cartridges and shotgun shells. Single copies may be obtained free by sending a stamped, self-addressed envelope to Sporting Arms and Ammunition Manufacturers Institute, 420 Lexington Avenue, New York, N. Y. 10017.

Game Commission Approves Rockfish Hatchery

The Commission of Game and Inland Fisheries voted to allocate $181,000 for construction of a Rockfish Hatchery at Brookneal. Completion of the project involves the purchase of approximately 65 acres of property lying along the river and construction of a series of ponds and a water supply for the hatchery.

"This facility may ultimately contribute more pounds of fish to the sport fisherman's creel than any other Commission facility," said 5th District Commissioner Allan Hoffman, in urging approval of the project. "It will assure the perpetuation of the unique landlocked striped bass populations of Buggs Island and Gaston reservoirs and will supply stock for put-grow-and-take populations elsewhere," he said.

Fish Division Chief Jack Hoffman said he envisions a 100 jar hatchery capable of producing some 100 million fry each year and pond facilities for rearing more than 1,000,000 of these to the fingerling size most suitable for stocking. Being the only true freshwater race available for stocking, the fish are much in demand by other states and foreign countries and have resulted in some mutually beneficial trades in which Virginia obtained muskies, northerns, walleyes and coho salmon now being taken by anglers around the state. Research has shown that the fish even have potential in some larger farm ponds and small reservoirs if sufficient stock were available. Construction is expected to begin in early fall.

Smith Mountain Muskie

M. R. Byerle, III, of Bedford, holds a 16 pound muskie he took recently in Smith Mountain Lake, one of over 40 muskellunge submitted to the Game Commission for citations during the first half of 1971.

Anglers Take 11 Tons of Fish From Lakes

Some 15,290 anglers took over 11 tons of fish from five eastern Virginia municipal water supply lakes during the past year, according to preliminary analysis of data collected at these areas by the Commission in cooperation with the municipalities who own the waters surveyed. The five lakes—which encompassed 2,449 acres of fishing waters—included Kilby, Meade and Cahoon of the Portsmouth-Suffolk Water Department and Lee Hall and Harwood Mill of the Newport News Water Supply Department. Bluegill were the most important fish number-wise, making up over half of the total catch at most lakes and over one-fourth to half of the total weight. Largemouth bass made up between 17 and 25 percent of the total catch by weight. Chain pickerel and white perch were the other main piscatorial fare.

The survey was undertaken in 1970 to gain detailed information on production from a group of representative municipal and private lakes so that such lakes could be better managed in the future to assure good fishing. Anglers were surveyed and the results recorded on cards for machine analysis. In addition to the above-mentioned lakes the survey covered lakes Prince, Smith and Whitehurst of the Norfolk Water Supply Department and privately owned Lake Powell near Williamsburg.

Lake Smith produced the largest bass with an average weight of 2 pounds, followed closely by Harwood Mill where largemouths averaged one and one-half pounds. July generally produced the best sunfish catches while largemouths hit most readily in September and pickerel showed up in greatest numbers in October. Anglers took a total of 78,439 fish from the 5 lakes during the year, or about 5 fish apiece. Fishing success varied between one half and one fish per hour at best times and dropped much lower during off seasons.

Edited by ANN PILCHER

By MORRIS J. HALL

Annandale

A Girl Goes Fishing With . . .

ARTICLES have been written concerning that familiar theme: Take a Boy Fishing! I have yet to see anything written suggesting that a girl might like to be taken fishing. With two young daughters, ages 10 and 8, and no sons, I have no other choice than to "take a girl fishing" if I am to enjoy this pastime with my children.

My daughters and I started fishing together when the boss (my wife) decided I could go fishing if the children could go with me. After considering this possibility, I felt that it couldn't be too bad. I would take them in a boat, get a cane pole for each of them (hopefully, to eliminate line tangles), and perhaps they might luck up and catch a couple of small bluegills or crappie. This would, I thought, keep them contented.

How wrong I was! They too wanted to cast and retrieve the bait and the lures. After some thought about the practicality of having my daughters throw lures around my head, I concluded that my best chance would be to use a boat. If the lures were cast into a bush, they could be easily retrieved. Also if Kim and Jane got bored, they could have turns operating the electric motor used to power the boat.

I found more actual time available for fishing when I got rid of the "jerkers," the nickname that Kim and Jane gave cane poles, and acquired spinning reels and rods for the girls. Admittedly I am perhaps somewhat prejudiced, but I do believe that Jane, age 8, and Kim, age 10, have the knowledge and skill in using this equipment that will compare favorably with any children their ages.

The availability of a good reel and rod has encouraged the girls to fish. In addition, they may use anything in my tackle box and are permitted to use the electric motor (if they are wearing life preservers) to fish on a lake where we have our camping trailer parked.

. . . this happy result.

In May of 1967, while fishing in Chandler's Mill Pond (Westmoreland County, Virginia), I caught a largemouth bass that weighed 8 pounds, 12 ounces, and had it mounted. Since then, Kim and Jane have wanted me to do the same with one of their prize catches. After Jane had caught, with my help, a largemouth bass weighing about three pounds, she asked about having it mounted. At that time I made this agreement with her: "When you make your own cast and catch your own fish, I'll have it mounted if it's at least 18 inches long."

A young friend of the girls, named James, caught a three-pound bass last year. Since then the girls have tried very hard to catch that 18-inch bass. James had told them that they weren't very good fishermen until they had caught a big fish like his. Jane, who is a little more enthusiastic than Kim about fishing, later proved to James that she *is* a good fisherman.

Here's how it happened. Our family was camping out on our lot on Placid Lake in Westmoreland County. Kim and Jane had caught their own bait—a good supply of crickets—and were having good luck catching bluegills. Suddenly Jane ran up to me and said, "Daddy, put the electric motor and battery on the boat! A big fish just jumped up across the lake and I know it's bigger than the one you had mounted."

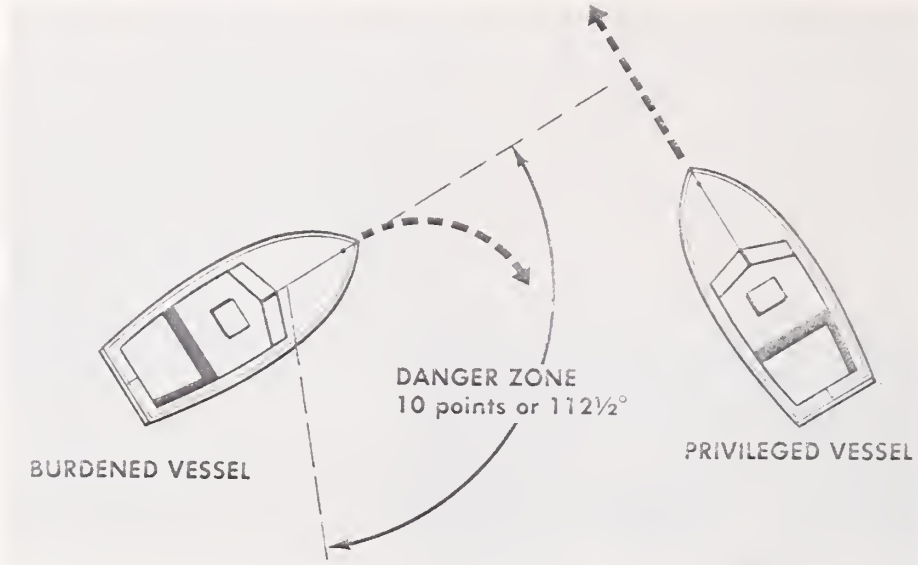
After trying unsuccessfully to convince my wife to go with the younger daughter, I told Jane to use another reel and rod with 15-pound test line. I snapped on a lure with which I had caught several bass. Convinced that she might catch a bass, Jane returned to the lakeside. She had been there for about five minutes when I heard her yell, "Daddy! Mama! Come quick! I have a big one on the line!" To myself I said, "Oh, no; she's caught another stump." About that time the fish jumped and my wife called out, "Hurry up!" I rushed to the edge of the lake and watched Jane play the fish just like a pro. The fish jumped and thrashed around in the water. As the drag slipped on the reel the fish began to give in. Jane reeled him in. All I had to do was to dip up the fish in a net.

And what a bass it was! We put a tape on it and the fish measured 23 inches. Hoping that it would weigh at least eight pounds so Jane could get a citation, we rushed to a local market and placed the fish on the scales. I was disappointed when the scales registered only 7½ pounds, but to Jane it was still a trophy. And it will be mounted since its length exceeded the 18 inches I had prescribed in our original agreement.

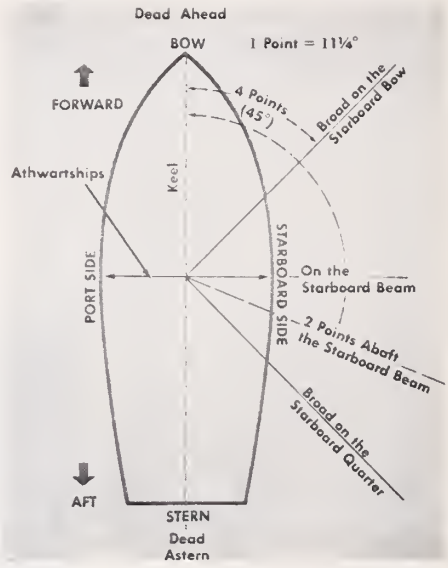
Thinking that I might pick up some pointers from Jane, I asked her how she did it. She gave me this account: "I saw a turtle sticking his head up, so I thought I would try to catch him. I cast the lure near the turtle and jerked it a couple of times and the bass hit the lure." The only pointer I picked up is perhaps the moral of the story: Try to catch a turtle and maybe you'll bring in a bass!

ON THE WATERFRONT

Edited by JIM KERRICK



When a vessel approaches you from the starboard, you must give the right of way.



Danger zone is 2 points abaft starboard beam.

Basic Rules of The Road

Traffic laws of the waterways are generally referred to as "Rules of the Road," and most boatmen use these rules when underway.

Dangerous situations involving quick decisions are as numerous for the man at the wheel of a boat as for the man behind the wheel of an automobile, and they are far more complex. Therefore, a boat operator must know the rules, be able to analyze any situation quickly, and apply the proper rule in the proper way.

When any vessel approaches you from any point dead ahead to "two points abaft the starboard beam," which is from your right, you must give the right of way by altering course, slowing down, or stopping. When vessels approach head on, each should bear to the right so as to pass port side to port side.

If a boat is being overtaken by another boat, the boat being overtaken is the privileged vessel and should maintain course and speed.

A vessel not having the right of way is called the burdened vessel and must take necessary action to avoid a collision.

In most cases sailboats have the right of way. In a narrow passage sailboats should give way to large craft such as tugs or barges. If a sailboat is overtaking a powerboat, the powerboat has the right of way.

When a boat is leaving a pier or mooring, it has no right of way until entirely clear and should proceed with caution at all times.

A boat moving upstream should give way to a boat running downstream as a boat moving against the current is much easier to control.

In certain circumstances it may be necessary for you to disobey the rules in order to avoid immediate danger. The Rules of the Road permit you to do so by means of the General Prudential Rule, also called the Last Chance Rule. If you find yourself in such a position that collision is almost unavoidable, do not hesitate to do anything that might avoid disaster.

When an emergency arises, it is the duty of any boatman to stand by and give all possible assistance. It is a tradition of the sea to aid those in distress.

Sailboats normally have the right of way except in a narrow passage or if overtaking a power boat.

Photo courtesy Evinrude Motors

The Louisiana Heron

Bird of the Month

By JOHN W. TAYLOR
Edgewater, Maryland

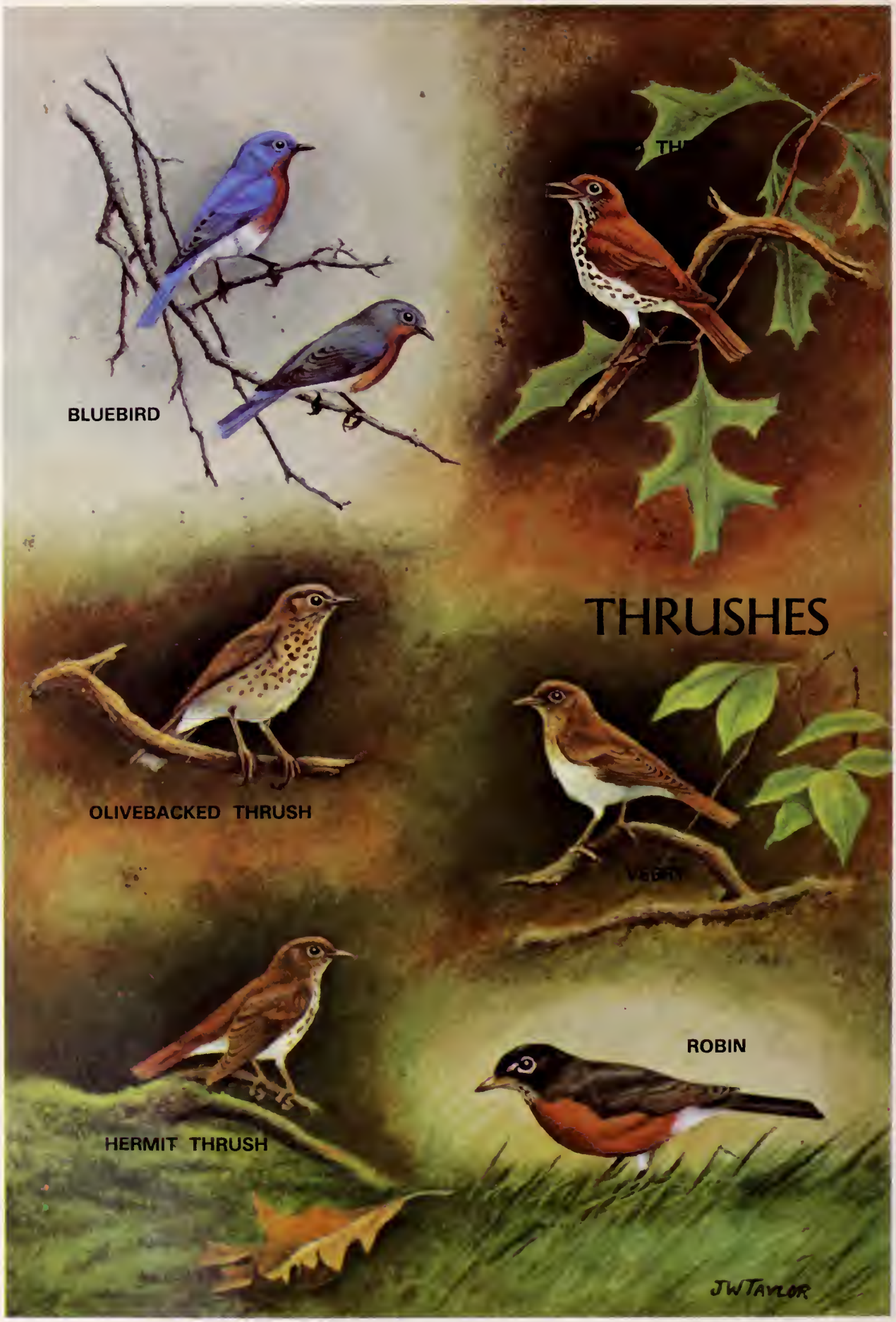
FARTHER to the south, the Louisiana is perhaps the most common of the herons, the year-round. In Virginia, it is primarily a late summer visitor, appearing in good numbers from July through September, especially on the Eastern Shore. Though formerly unknown hereabouts during the breeding season, it has, in recent years, increased as a nesting bird, and now may be found regularly with other species that gather to form rookeries, or, more properly, "heronries."

Most of these nesting concentrations are situated on or near the barrier islands off the coast from Chincoteague south to Cape Charles. They may consist of from a dozen to several hundred nests, belonging to herons of several species, egrets and glossy ibises. The first recorded nesting of the Louisiana heron in Virginia was in one of these colonies in 1941. Now as many as a dozen pairs may be in each heronry.

Many of the other herons, like the Louisiana, have also increased considerably and extended their ranges northward. This is due in large part to the protection afforded them after their numbers were decimated early in the century by plume-hunters for the millinery trade. The Louisiana, however, did not grow the lacy white plumes so coveted by the hatmakers. So its increase in Virginia is most likely due to a range extension rather than a recovery from a population loss.

Some prefer to call this bird the tri-colored heron, based on its scientific name *Hydranassa tricolor*. "Bi-colored" heron might be more accurate, since it is definitely two-toned, with slate-gray upper parts and white belly. There are lighter, brownish streakings on the neck, and, in the breeding plumage, cinnamon colored "aigrettes" extending down the back to the tail. The key to identification in the field is the sharply contrasting white belly.

Graceful of movement, demure in habit, the Louisiana is a favorite of many who have observed it closely. Audubon was especially impressed, calling it "The Lady of the Waters."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THRUSHES
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